cTACE strategy was estimated to be 414 days whereas that of DEB TACE strategy was estimated to be 651 days. The total costs for cTACE strategy and DEB TACE strategy were EGP 420,529 and EGP 1,351,105 respectively. Thus the incremental cost effectiveness ratio (ICER) for cTACE versus DEB TACE is EGP 3,926 per one day survival gained. The Deterministic sensitivity analysis demonstrated that survival associated by DEB TACE strategy and DEB-TACE operation costs have the greatest effect on the results. **CONCLUSIONS:** Results from this study suggest that employing a cTACE strategy is cost-effective intervention compared to DEB TACE in patients with hepatocellular carcinoma based on the willingness to pay threshold stated by world health organization (3xGDP/capita) for low and middle income countries.

PCN95

COST-EFFICACY ANALYSIS OF IPILUMUMAB IN PERU

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OBJECTIVES: Pricing and reimbursement is typically approached product by product, not in comparison across therapeutic areas in Peru. Within oncology, there are relatively few treatment options for advance stage cancer patients that have documented significant increases in overall survival (OS). Ipilumumab has been recently approved in Peru for the treatment of unresectable or metastatic melanoma. Given the rising costs of cancer care payers and physicians need to better understand the value of innovative oncology drugs for reimbursement decision making. This study assesses the cost per additional month of mean overall survival of ipilimumab and how this metric compares to other oncology agents approved in Peru in the metastatic setting. **METHODS:** We selected agents that received regulatory authorization in the last 10 years in Peru and had phase 3 studies with OS as a primary or secondary objective. Mean OS was obtained from published literature. Drug prices were obtained from "observatorio de precios de DIGEMID" a public database. The economic value of each asset is presented in terms of cost per additional month of mean OS from a private healthcare payer perspective. The analysis uses the cost to treat to mean progression of each agent divided by the months of mean overall survival improvement using its current list price. All prices are in 2014 "nuevos soles" **RESULTS:** Seventeen drugs met inclusion criteria. Of these, 26 different indications were evaluated. The average cost per mean overall survival month gained was estimated at S/.57,178, range S/.3,108 – S/.264,764. Ipilimumab as first and second line treatment for metastatic melanoma had an estimated cost per additional mean overall survival at S/.36,901 and S/.41,740 respectively. **CONCLUSIONS:** In this cost efficacy analysis, Ipilimumab´s cost per additional month of overall survival was estimated below the market average. At current private market prices Ipilimumab may offer good value for money.

PCN96

LONG-TERM OUTCOMES OF HPV VACCINATION IN PREVENTION OF ANAL CANCER IN OLDER HIV-POSITIVE MEN WHO HAVE SEX WITH MEN

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OBJECTIVES: Recent findings show that vaccinating older men who have sex with men (MSM) with history of high-grade anal intraepithelial neoplasia (HGAIN)–a precursor to anal cancer–with quadrivalent human papillomavirus (qHPV) vaccine was associated with 50% decrease in the hazards for recurrent or persistent HGAIN. We evaluated the long-term clinical and economic outcomes of adding qHPV vaccine to the HGAIN treatment regimen HGAIN in HIV-positive MSM aged ≥ 27 years. METHODS: Using Markov model of anal histology in HIV-positive MSM we compared two strategies–no qHPV vaccination after treatment for HGAIN versus qHPV vaccination after treatment for HGAIN. The probability of anal intraepithelial neoplasia (AIN) progression was conditional on patients' CD4 count. Model parameters, including baseline prevalence, disease transitions, costs, and utilities were either obtained from literature or calibrated using a natural history model of anal carcinogenesis. Model output included lifetime costs, quality-adjusted life years (QALYs), and lifetime risk of developing invasive cancer. Results from the healthcare perspective were presented in the forms of incremental cost-effectiveness ratios (ICERs) and decrease in lifetime risk of anal cancer. Deterministic and probabilistic sensitivity analyses were conducted on model parameters. **RESULTS:** Vaccination after treatment for HGAIN decreased the lifetime risk of anal cancer by 63% compared to the no vaccination strategy. Vaccination resulted in the decrease in lifetime costs with increase in effectiveness by 0.16 QALYs. The predicted incidence of anal cancer after vaccination was almost one-third to that of the no vaccination strategy. The results were sensitive to the model parameters–progression from HGAIN to cancer, mortality attributed to anal cancer, cost of HGAIN treatment, and discount rate. **CONCLUSIONS:** Vaccinating the high-risk population of HIV-positive MSM aged ≥ 27 after treatment for HGAIN is a cost-saving strategy. Expansion of current vaccination guidelines to include this population should be a priority.

PCN97

CASE STUDIES OF COST-EFFECTIVENESS FOR CO-ADMINISTERED BRANDED ONCOLOGY PRODUCTS: PREDICTIONS FROM AN EARLY ECONOMIC MODEL

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OBJECTIVES: The purpose of this study was to develop an early economic model to compare the maximum supported cost-effective prices (CEP) of recently launched co-administered branded products to their list prices in the UK. **METHODS:** An early economic model was constructed in Microsoft Excel using a three-state partitioned-survival approach. A pragmatic literature search was performed identified three co-administered branded therapies as case studies: pertuzumab + trastuzumab(+docetaxel) in HER2+ breast cancer, trametinib + dabrafenib in melanoma, and idelalisib + rituximab in chronic lymphocytic leukaemia; all therapies except rituximab were dosed to progression. Progression-free and overall survival for the intervention and comparator arms were sourced from relevant clinical trials; survival was assumed to follow an exponential distribution. Representative acquisition, administration, and monitoring costs were sourced from the literature and health technology assessment appraisals. The maximum CEP for each analogue was evaluated at two different willingness-to-pay (WTP) thresholds: £20,000/QALY and £50,000/QALY. All costs and outcomes were discounted at 3.5%. **RESULTS:** The results from the early economic model suggested that neither pertuzumab nor trametinib would ever be a cost-effective therapy even at a WTP threshold of £50,000. However, at both WTP thresholds of £20,000 and £50,000/QALY, idelalisib was projected to have a cost-effective price, which was similar to the current list price in the UK. **CONCLUSIONS:** These results demonstrate that neither pertuzumab nor trametinib have CEPs, while the CEP for idelalisib is similar to the UK launch price, demonstrating that add-on branded therapies co-administered without anchors dosed to progression (here, rituximab) will permit higher prices while remaining cost-effective. This analysis highlights the utility of early economic models in evaluating potential pricing and HTA barriers early in the development process.

PCN98

COST-EFFECTIVENESS OF CO-ADMINISTERED BRANDED THERAPIES IN ONCOLOGY: PRICING INSIGHTS FROM AN EARLY ECONOMIC MODEL

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OBJECTIVES: The purpose of this study was to evaluate the maximum cost-effective price (CEP) supported for innovative drugs co-administered with existing branded therapies. **METHODS:** An early economic model was constructed in Microsoft Excel using a three-state partitioned-survival approach. The intervention arm was assumed to be a hypothetical regimen consisting of an add-on drug and an anchor branded therapy, while the comparator consisted of the anchor therapy; both arms were dosed to progression. Three pricing scenarios were evaluated for the anchor: £1,000/month (low cost), £3,000/month (moderate cost), and £5,000/month (high cost). Other costs were sourced from a literature review; adverse event costs were not included. Progression-free survival (PFS) and overall survival (OS) were modelled assuming an exponential distribution; different median PFS and OS gains were evaluated to determine the maximum cost-effective price permitted for the add-on therapy. The maximum supported price was evaluated at two different willingness-to-pay (WTP) thresholds: £20,000/QALY and £50,000/QALY. All costs and outcomes were discounted at 3.5%. **RESULTS:** For small gains in OS and PFS (<3 months), the model projects that no CEP for the add-on would be supported at a WTP threshold of £20,000/QALY. When administered with a low-cost anchor, the add-on would be cost-effective at a WTP of £50,000/QALY with a price up to £583/month; when administered with a high-cost therapy, no CEP was supported. In order to support any CEP for the add-on, substantial gains in OS are required: for a PFS gain of 3 months, a gain of 6.9 months for OS would be required at a WTP of £50,000/QALY. **CONCLUSIONS:** These results demonstrate that new drugs co-administered with anchor branded therapies require substantial OS gains to support cost-effective pricing, as these drugs are dosed to progression. This analysis highlights the utility of early economic models in evaluating potential pricing and HTA barriers early in the development process.

PCN100

A NEW APPROACH FOR IDENTIFICATION OF DISEASE-RELATED MEDICAL BILLING CODES FOR CHRONIC LYMPHOCYTIC LEUKEMIA FOR USE IN COST ANALYSES IN ADMINISTRATIVE CLAIMS DATA

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OBJECTIVES: To evaluate a new empirical algorithm for selecting disease-related medical billing codes associated with chronic lymphocytic leukemia (CLL). **METHODS:** Patients in the SEER-Medicare database with a CLL diagnosis (2002 to 2010) were age/gender matched to a non-cancer sample. A proprietary coding algorithm based on code frequency (sensitivity, specificity precision or accuracy) and cost was used to identify procedure (i.e., CPT and HCPCS) and diagnosis (ICD-9-CM) codes that differed between the CLL and non-cancer groups. Summarized costs for claims with the empirically identified codes were compared to a traditional approach of identifying disease-related claims based on presence of a CLL diagnosis in the first diagnosis field. The code set was applied to a sample from a prior CLL study conducted with commercial claims to assess generalizability. **RESULTS:** The analysis evaluated 10,531 unique billing codes with total costs of >$1 billion (US; CLL 58.3%; non-cancer 41.7%) for 7,050 age and gender matched SEER-Medicare subjects per group. The empirical algorithm found 333 codes that identified 25.0% of the CLL group costs as cancer-related. The traditional approach used claims that contained 2,001 codes and identified a much lower 14.6%. Approximately 1% of costs were potentially misidentified in the non-cancer cohort, providing further confirmation of the codes selected by the empirical method. Qualitative review of codes revealed stronger content validity with the empirical approach compared to the traditional approach. Application of codes identified in the SEER-Medicare data to the commercial database provided validation by identifying almost twice as many costs as the traditional approach with a 1% error rate. **CONCLUSIONS:** The traditional approach underreports costs and captures costs from procedure codes that do not appear to be cancer-related. Use of an empirical approach to identify disease-related diagnosis and procedure codes will increase content validity.

PCN101

HOSPITAL UTILIZATION IN PATIENTS WITH MANTLE CELL LYMPHOMA

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OBJECTIVES: To examine hospital utilization in patients diagnosed with mantle cell lymphoma (MCL). **METHODS:** A retrospective cross-sectional study was con-